

LEICHHARDT'S SAWFISH.

By G. P. WHITLEY.

"Brown . . . told me that he had seen a very large and most curious fish dead, and at the water's edge. Messrs. Gilbert and Calvert went to fetch it, and I was greatly surprised to find it a sawfish (*Pristis*), which I thought lived exclusively in salt water. It was between three and four feet in length, and only recently, perhaps a few days, dead. It had very probably come up the river during a flood, for the water hole in which the creature had been detained, had no connection with the tiny stream, which hardly resisted the absorbing power of the sands. Another question was, what could have been the cause of its death? as the water seemed well tenanted with small fish. We supposed that it had pursued its prey into shallow water, and had leaped on the dry land, in its efforts to regain the deep water."

So wrote the explorer, Dr. Ludwig Leichhardt, in his "Journal of an Overland Expedition in Australia, from Moreton Bay to Port Essington" (1847, p. 288), on June 10th, 1845, when he was at the Lynd River, in what is now Queensland. His great interest in the dead animal was explicable; he was seeking a route to Port Essington, and any clue to a large river flowing westward to the sea might well be an indication in the right direction.

Through the courtesy of Mr. A. H. Chisholm, F.R.Z.S., I have been favoured with a contemporary extract from the manuscript diary of Leichhardt's companion, John Gilbert, bearing on the same discovery. On June 10th, 1845, at "Swordfish Camp," on the Lynd River, Gilbert noted:—

"We camped in the bed of the river beside a large and deep pool of water. Here we were tempted to try our lines, and, although not successful enough in catching fish for an edible purpose, yet we were enabled to enrich our collection with the addition of 5 and perhaps 6 species not before observed. But by far the most interesting circumstance of the day was the appearance of a Swordfish Shark, an ocean fish. We were, I believe, as much astonished at the sight of this creature as is related of Robinson Crusoe when he saw the impression of a man's foot in the sand, but perhaps our surprise was of a more agreeable nature, for it is the first positive indication of our approaching the coast. The fish was stranded and had apparently been dead only two or three days; but how it could have got up thus far in fresh water is a singular circumstance. That is to say, if the Dr.'s observations are correct we are at least 100 miles from the nearest coast, and the presence of this fish so far would go a great way to prove to us that the fall of the land from this must either be very slight or very gradual for the whole distance. At all events it puts us all on the *qui vive*. The Doctor for some time past has been in one of his usual gloomy fits and is very sparing in his ideas or information on general subjects. What he concludes from this incident he therefore keeps to himself. It is certainly very much to be regretted that we have such a leader, who never of late appears at all disposed to be cheerful or even agreeably civil to his companions."

Chisholm ("Strange New World," 1941, p. 251) quotes portion of this entry and adds:—

"Every 'Crusoe' in the party crowded round to examine the fish when Gilbert and Calvert brought it to the camp. Leichhardt (as noted in his book) was greatly surprised by the presence of the specimen, and he wondered how it came to be so far upstream and what had caused its death. But whatever deductions he made were not confided to his companions, for at this stage he was in a very morose mood and, as Gilbert complained, was 'keeping his conclusions to himself.'"

"Gilbert himself was frankly puzzled. According to Leichhardt's estimates the party was at least one hundred miles from the nearest coast; the flow of water in the river was merely slight, and yet here was this large oceanic fish (it was three to four feet in length) which had been dead only two or three days. Possibly it had

found a way upstream in flood waters and, becoming stranded in a pool, had lived there for a considerable time.

"At all events," Gilbert adds, "the discovery puts us all on the *qui vive*."

"It was in truth a remarkable circumstance to find an oceanic fish at such a point, for, as the party was to learn within a week, the spot was rather more than fifty miles from the mouth of the Lynd, and that mouth was merely a junction with another river."

A century ago, it was not known, as it is now, that there are some exclusively freshwater species of sawfishes in the rivers of tropical Australia, the East Indies, Burma, and other places, so that Leichhardt cannot be blamed for any faulty deduction. Indeed, I marvel at his extensive knowledge of ichthyology which enabled him to classify so accurately the Burramundi of the Dawson River and the Sawfish of the Lynd.

When I wrote the first volume of my "Fishes of Australia" I was aware that there were sawfishes in the freshwater rivers of Queensland, Northern and Western Australia, because of the records of Leichhardt, Macdonell (Abstr. Proc. Linn. Soc. N.S. Wales, June 29, 1887, p. vii.), and Dahl ("In Savage Australia," 1926, p. 137), but I had no specimens, so could not identify the species. Recently, I noticed in the Western Australian Museum, Perth, a sawfish from a billabong near Derby, W.A., which I determined as *Pristis clavata* Garman. Then, this year, Sergeant Bruce Shipway, who had been surveying in little-known parts of Queensland and Western Australia with the Australian Imperial Forces, gave me a photograph of a sawfish which he had obtained from the Lynd River in October, 1944, where specimens had been speared in freshwater billabongs. The species attained a length of five feet and had been seen in the Walsh, Mitchell and Palmer Rivers. He observed that the position of the first dorsal fin was different from those illustrated in my "Fishes of Australia." I am much obliged to Sergeant Shipway for his interest as, from his re-discovery of "Leichhardt's Sawfish," just a century after Leichhardt's announcement, it is possible to classify the species, which is obviously a permanent resident of the rivers and not a fortuitous visitor. The rivers flowing into the Gulf of Carpentaria and those of the southern shores of New Guinea support similar faunas, already named the Leichhardtian Fluvifaunula (see Iredale and Whitley, "South Australian Naturalist," xviii., 1938, No. 4, p. 64), and it is possible that freshwater sawfishes may yet be discovered in Papua. In further tribute to the explorer-naturalist, I propose for the Lynd River species the new name *Pristiopsis leichhardti*, the bibliography and definition of which are as follows:—

Family PRISTIDAE.

Genus PRISTIOPSIS, Fowler, 1905.

Pristiopsis Fowler, Proc. Acad. Nat. Sci. Philad., lviii., August 14, 1905, p. 459.

Orthotype, *Pristis perrotteti* Muller & Henle, 1841. Generic name pre-occupies *Pristiopsis* Schmidt, Entom. Zeitung. Stettin., lxvi., heft 2, November, 1905, p. 332, a genus of Insects.

Freshwater sawfishes which differ from *Pristis* Linck, 1790, or Latham, 1794 (type, *Squalus pristis* Linné, 1758, from Europe) in having fewer rostral teeth, a distinct lower caudal lobe, and with the first dorsal fin originating well in advance of the ventrals.

PRISTIOPSIS LEICHHARDTI, *sp. nov.*

(Fig. 1.)

Pristis Leichhardt, "Australian" (Sydney), March 26, 1846, supplement, and "Herald," same day; reprinted in Journ. Roy. Geogr. Soc., London, xvi.,

1846, p. 223, and Tas. Journ. Nat. Sci., iii., 1849, pp. 31 or 81 and 105. *Id.* Leichhardt, Journ. Overland Exped., 1847, p. 288 (Lynd River).



Fig. 1.

was given as five feet. This combination of characters separates Leichhardt's Sawfish from all other fossil and recent species of Pristidae.

Described and figured from the type-locality, Lynd River, North Queensland; found in freshwater billabongs, and seen also in the Walsh, Mitchell and Palmer Rivers by Sergeant Shipway.

Key to the recent species of Australian Sawfishes.

- A. First dorsal fin originating well in advance of level of ventral origins; about eighteen teeth on each side of saw. *Pristiopsis leichhardti*, Whitley.
- AA. First dorsal fin originating behind level of ventral origins.
 - B. Twenty-five or more teeth on each side of saw. *Pristis zijsron*, Bleeker.
 - BB. Eighteen to twenty-one teeth on each side of saw. *Pristis clavata*, Garman.

? *Pristis* Macdonell, Abstr. Proc. Linn. Soc. N.S. Wales, June 29, 1887, p. vii.; Proc. (2), ii., August, 1887, p. 412 (W. Austr.—freshwater). *Id.* Dahl, "In Savage Australia," 1926, p. 137 (Uniya Mission, N.W. Australia).

"Swordfish Shark," Chisholm, Strange New World, 1941, pp. 251, 252. *Ex* John Gilbert's MS. diary, June 10, 1845, Lynd River.

The first mention of this species was Leichhardt's brief note on his return to Sydney, here quoted from the Mitchell Library copy of "The Australian Journal of Commerce, Agriculture, and Politics" (n.s.), iii., March 26, 1846, supplement:—

"In a large water-hole of the Lynd we found a dead sawfish (*pristis*); in those of the Mitchell, alligators were seen by my black-fellows."

Sergeant Shipway's photograph shows a sawfish (speared through the head) with apparently eighteen teeth on each side of the rostrum, those nearest the head being rather long; the first dorsal fin originates well in advance of level of ventrals and is smaller than the second, whose lobe reaches the caudal which has an excavate posterior margin and distinct lower lobe; the pectoral angles are not rounded. The maximum length